

IN THE CLAIMS

Please enter the following amendments to the claims.

1. (currently amended) A copper polish slurry, comprising a mixture of:
a surfactant containing an alkyltrimethylammonium cation; a chelating buffer system;
an abrasive comprising silica; an oxidizer; and a corrosion inhibitor; wherein the slurry has a
pH between 2.5 and 7.0.
2. (original) The slurry of Claim 1, wherein the surfactant comprises
cetyltrimethylammonium bromide dissolved in the mixture.
3. (original) The slurry of Claim 1, wherein the surfactant comprises
cetyltrimethylammonium cations and halogen anions.
4. (currently amended) The slurry of Claim 3, wherein ~~the abrasive comprises silica~~, the
corrosion inhibitor comprises benzotriazole, and the oxidizer comprises hydrogen peroxide
dissolved in the mixture.
5. (original) The slurry of Claim 1, wherein the chelating buffer system comprises
ammonium bicitrate and potassium citrate dissolved in the mixture.

6. (original) The slurry of Claim 1, wherein the chelating buffer system is selected from the group consisting of citric acid/potassium citrate, and ammonium bicitrate/potassium citrate.

7. (original) The slurry of Claim 1, wherein the corrosion inhibitor is selected from the group consisting of benzotriazole and cetyltrimethylammonium bromide.

8. (original) The slurry of Claim 1, wherein the surfactant comprises between 0.003M and 0.075M cetyltrimethylammonium bromide in the mixture.

9. (original) The slurry of Claim 1, wherein the surfactant comprises cetyltrimethylammonium hydroxide dissolved in the mixture.

10. (original) The slurry of Claim 1, wherein the surfactant comprises both cetyltrimethylammonium hydroxide and cetyltrimethylammonium bromide dissolved in the mixture.

11. (currently amended) A copper polish slurry, comprising in combination:
water, a surfactant containing a alkyltrimethylammonium cation, a chelating buffer system, an abrasive comprising silica, an oxidizer, and a corrosion inhibitor, wherein the slurry has a pH between 2.5 and 7.0.

12. (currently amended) The slurry of Claim 11, wherein the abrasive comprises silica has ~~having~~ a surface area of 500 m²/g.

13. (previously presented) The slurry of Claim 12, wherein the corrosion inhibitor is selected from the group consisting of benzotriazole and cetyltrimethylammonium bromide.

14. (previously presented) The slurry of Claim 11, wherein the corrosion inhibitor is benzotriazole and the surfactant is selected from the group consisting of cetyltrimethylammonium bromide and cetyltrimethylammonium hydroxide.

15. (previously presented) The slurry of Claim 11, wherein the slurry has a density of 1.03 g/ml.

16. (previously presented) The slurry of Claim 11, wherein the oxidizer comprises hydrogen peroxide; and the chelating buffer system comprises citric acid and potassium citrate.

17. (withdrawn) A method of making a slurry for the chemical mechanical polishing of copper and copper diffusion barriers, comprising:
combining a surfactant; a chelating buffer system; an abrasive; an oxidizer; and a corrosion inhibitor.

18. (withdrawn) The method of Claim 17, wherein the surfactant comprises cetyltrimethylammonium bromide and cetyltrimethylammonium hydroxide.

19. (withdrawn) The method of Claim 17, wherein the surfactant comprises a quaternary ammonium halide.

20. (withdrawn) The method of Claim 17, wherein the surfactant comprises a dimethyl silicone ethylene oxide.

21. (withdrawn) The method of Claim 17, wherein the surfactant comprises an alkyl polyethylene oxide.

22. (withdrawn) The method of Claim 17, wherein the surfactant comprises a material characterized by an ability to substantially prevent abrasive particles in the slurry from removing a oxide dielectric while allowing the removal of copper and tantalum-based copper diffusion barriers.

23. (withdrawn) The method of Claim 22, wherein, the oxide dielectric is doped so as to have a dielectric constant less than that of silicon dioxide.

24. (withdrawn) The method of Claim 18, wherein, the oxide dielectric is doped with fluorine.

25. (withdrawn) A method of polishing copper, comprising:

bringing a substrate coated on at least one surface with copper, into contact with a polishing pad; and

dispensing onto the polishing pad, a slurry formed from a combination of an abrasive, an oxidizer, and a surfactant.

26. (withdrawn) The method of Claim 25, wherein the surfactant is selected from the group consisting of quaternary ammonium halide, dimethyl silicone ethylene oxide, and alkyl polyethylene oxide.

27. (withdrawn) The method of Claim 25, wherein the surfactant comprises cetyltrimethylammonium bromide.

28. (withdrawn) The method of Claim 25, wherein the surfactant is characterized by an ability to substantially prevent abrasive particles in the slurry from removing a oxide dielectric while allowing the removal of copper and tantalum-based copper diffusion barriers.

29. (withdrawn) The method of Claim 27, wherein a concentration of cetyltrimethylammonium bromide in the slurry is in the range of 0.003M to 0.075M.

30. (withdrawn) The method of Claim 25, wherein the surfactant comprises cetyltrimethylammonium hydroxide.
